

# Victoria Shanghai Academy

## Mathematics 2012-13

### What are we studying in Maths?

In our Maths classes this year, we will develop important problem solving, organizational, cooperative, and communicative skills. Through the main units of Numbers, Algebra, Statistics and Probability, and Geometry and Trigonometry, we will learn how to use numbers, words, pictures, and objects to solve more than answers or solutions. The textbook is one such tool (not the only one) that we will use to develop our Maths skills. In fact, we will learn how to express our methods of solving equations or problems. This is why it is important to reflect and think about our own work.

### How do we “mark” these assessments?

We are assessed in 4 criteria (areas) in Maths. Explanations within each area help us understand how well an assessment task was done. It is also important to understand that all 4 criteria are significant.

<b>Criterion A (8)</b>	<b>KNOWLEDGE and UNDERSTANDING:</b> Students should be able to: <ul style="list-style-type: none"> <li>■ Know and demonstrate understanding of the concepts within the unit.</li> <li>■ Use appropriate mathematical concepts and skills to solve problems in both familiar and unfamiliar situations, including real-life contexts</li> </ul>
<b>Criterion B (8)</b>	<b>INVESTIGATING PATTERNS</b> Students should be able to: <ul style="list-style-type: none"> <li>■ Select and apply appropriate inquiry and mathematical problem-solving techniques</li> <li>■ Recognize pattern</li> <li>■ Describe pattern as relationship or general rules</li> <li>■ Draw conclusions consistent with findings</li> <li>■ Justify or prove mathematical relationships and general rules</li> </ul>
<b>Criterion C (6)</b>	<b>COMMUNICATION IN MATHEMATICS</b> Students should be able to: <ul style="list-style-type: none"> <li>■ Use appropriate mathematical language in both oral and written explanations</li> <li>■ Use different forms of mathematical representation</li> <li>■ Communicate a complete and coherent mathematical line of reasoning using different forms of representation when investigation problems.</li> </ul>
<b>Criterion D (6)</b>	<b>REFLECTION IN MATHEMATICS</b> Students should be able to <ul style="list-style-type: none"> <li>■ Explain whether their results make sense in the context of the problem</li> <li>■ Explain the importance of their findings in connection to real life where appropriate</li> <li>■ Justify the degree of accuracy of their results where appropriate</li> <li>■ Suggest improvements to the method when necessary</li> </ul>

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\*Further details could be found on the assessment wiki:

<http://vsamathsassessments.wikispaces.com/MYP+Criteria>

## MYP Assessment Criteria

### Grade 6-8 descriptors

	<b>Criterion A</b>	<b>Criterion B</b>
1-2	The student demonstrates basic mathematical understanding with some success when solving problems in familiar situations.	The student is able to use a simple problem-solving technique so that patterns can emerge.
3-4	The student demonstrates reasonable mathematical understanding when solving simple problems and some more complex ones in familiar situations.	The student is able to select and apply an appropriate problem-solving technique, and can describe the emerging pattern.
5-6	The student demonstrates good mathematical understanding when solving problems and achieves some success with the more challenging problems.	The student can select and apply appropriate problem-solving techniques, and can suggest a mathematical rule to describe an emerging pattern.
7-8	The student demonstrates excellent mathematical understanding when solving all problems including the most challenging, and problems set in unfamiliar situations.	The student can select and apply appropriate problem-solving techniques, and can offer, with sensible reasons, a correct mathematical rule to describe an emerging pattern.

	<b>Criterion C</b>	<b>Criterion D</b>
1-2	The student uses basic mathematical language and symbols but there may be several serious errors or omissions.	The student comments on how the results make sense in the context of the problem.
3-4	The student uses mathematical language and symbols in a consistent and accurate way with few errors. Explanations are generally clear. Diagrams (such as charts and graphs) are constructed with reasonable accuracy.	The student explains how the results or findings make sense in a real-life context and/or in the context of the problem. There is a comment on the degree of accuracy or reliability of answers.
5-6	The student uses symbols and vocabulary accurately. Explanations are clear and easy to follow and make good mathematical sense. All forms of representation are clear and accurate.	The student explains in detail how the results or findings make sense in a real-life context and in the context of the problem. The degree of accuracy of answers is explained mathematically, where appropriate, alternative mathematical techniques are offered.